

REMARKS

Claims 1-14 were pending. Claims 1, 6, and 12 have been amended for clarity. The claims remain 1-14.

Claims 1-4, 6-10, and 12-14 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Pat. Pub. 2001/0033683 to Tanaka et al. Claims 5 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tanaka et al. in view of U.S. Pat. Pub. 2004/0021074 to Suzuki et al. Reconsideration of these rejections respectfully is requested.

The Tanaka et al. teaches detecting defects employing a feature quantity such as brightness of an inspection image or brightness of a difference image. The present invention, however, detects defects and uses feature quantities including coordinates, size, area, halftone values, differentiated halftone values to classify the detected defects. Although Tanaka et al. suggests broadly that classification is possible, Tanaka et al. does not describe classification in detail, and in any event does not teach or suggest the classification disclosed and claimed in the present application. Suzuki et al. discloses calculating a difference signal between neighboring pixels to obtain an outline of pattern in order find an appropriate autofocusing location. According to Suzuki et al., difference signals are not calculated for detected defects.

Independent claims 1, 6, and 12 have been amended to make clear that feature quantities of the abnormal pattern include differentiated halftone values between pairs of adjacent pixels. This aspect of the invention is not disclosed by Tanaka et al., an admission of which is contained in section 6 of the Office Action. Claims 1, 6, and 12 are patentable over the cited reference to Tanaka et al. Claims 2-5, 7-11, and 13-14, dependent on claims 1, 6, and 12 respectively, are patentable over Tanaka et al. for at least the same reasons.

Suzuki et al. does not cure the deficiencies of Tanaka et al. Suzuki et al. discloses a focusing system for a scanning electron microscope. Boundary lines of features

on a sample are extracted in order to determine where auto-focusing should take place. Focusing location operations include moving the microscope along an inclined scan line of the sample and determining locations in which the difference signal for neighboring pixels is greatest. Suzuki et al. also discloses that focusing location operations take place after defect information has been provided by a defect checking device. See paragraph 0032, for example. Suzuki et al. discloses that no focusing location operation takes place for defect areas that have been identified by the defect checking device. This is a time-saving measure. The focusing location operation is unnecessary for defect areas, because the location determined by the defect checking device is provided to the focusing system, thus saving time and processing steps. Thus, rather than teaching or suggesting that difference signals are used in defect characterization and classification, as asserted in the Office Action, Suzuki et al. teaches that the difference signal determination is eliminated for defects.

Moreover, Applicants respectfully submit that the proposed combination of Suzuki et al. with Tanaka et al. lacks motivation, and appears instead to be motivated by an improper attempt at hindsight reconstruction of the present invention. The Office Action states in section 6, third paragraph, that Suzuki et al. implicates “taking the conventional difference image between an inspection image and a reference image.” Applicants notes, however, that the section of Suzuki et al. referenced in the Office Action is the “Description of Related Art.” Further, as noted above, Suzuki et al. discloses that focusing operations are based on information directly from the sample, and are not conducted on defect areas identified by a defect checking device. Claims 1, 6, and 12 are patentable over the cited references to Tanaka et al. and Suzuki et al. Claims 2-5, 7-11, and 13-14, dependent on claims 1, 6, and 12 respectively, are patentable over Tanaka et al. and Suzuki et al. for at least the same reasons.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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